NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

REPORT OF THE COMMITTEE
ON
LANGUAGE LABORATORIES IN INDIA

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NEW DELHI

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TERMS OF REFERENCE :

1. To make a survey of the facilities like equipment, programmes, tapes, literature, etc. available in the language laboratories in the country for learning of Indian and other languages;

2. To report on the actual use of the language laboratories in terms of number of hours, number of persons and category of persons;

3. To report on the expansion of the facilities of language laboratories, particularly for functional teaching of languages at University level or for those who are deputed abroad; and

4. To assess the production capacity in the country of the equipment required for language laboratories and to suggest expansion programme, if any.

National Council of Educational Research and Training,
New Delhi-16.

Report of the Committee
on
LANGUAGE LABORATORIES IN INDIA

1. Introduction

In accordance with order No.F.9-17/69-P and C of 2nd July, 1969, we constituted ourselves into a Committee and examined the problem within the framework of the terms of reference in the order. Since the information necessary was available with one or more of us, there was no need for specific visits by the Committee as a whole. We had our first meeting in Delhi on the 23rd and 24th of July, 1969, when Dr. Pattanayak could not be present owing to unavoidable circumstances, but, the Chairman had detailed discussions with him in Poona. We had our second and final meeting in Delhi on the 31st of July and 1st and 2nd of August, 1969. After the discussions, we felt it appropriate to furnish a main report restricted to general principles and append to the same a set of self-contained appendixes containing details and discussions on each of the topics having a bearing on the main body of the Report. Since the survey of the available facilities and their use is factual and detailed, we have furnished the same in Appendix 1. Hence, we restrict our discussion here to examining the expansion of the facilities of language laboratories for the functional teaching of languages and the indigenous production of the required equipment. These correspond to the last two terms of reference to our Committee.

2. Our Problems

In our educational framework, we have, for long, mixed up the teaching of a language with that of literature in the language. Our schemes of examinations test mostly the factual information about the language and its literature. Very little effort is put in to make the learner speak the language in such a way that it is understood by a person for whom the language is his mother tongue. Similarly, the learner does not get the opportunity to listen and understand the spoken language. For those of us who go abroad for trade, commerce, etc., and or deal with foreigners in India, the spoken language is a must. Further, if we learn how to speak and understand what is spoken in a language, it becomes easier to learn the written form of the language and retain the knowledge.

2.1 Our first problem is, therefore, to arrange for the functional teaching of the languages spoken in different countries of the world. Quite often, this need to learn a particular language arises when we are advanced in age. Hence, it could be said that the teaching of foreign languages to adults in addition to youth is a necessity not only now but at all times.

2.2 A foreign language like English has to be learnt by the majority of University students for having access to the world's vast and ever growing fund of knowledge. A sizable number of university students will be required to put across the results of their research to the world as a whole. It is visualized that a small number of university students may need to learn several foreign languages.

2.3 In our schools, it is now almost a norm to teach at least three languages, viz., English, Hindi and the regional language. The time allotted for teaching these languages is almost 50 per cent of the total teaching hours. This leaves very little time for learning mathematics, science, history, geography etc. If the time allotted to languages could be cut, our standards in science, etc., can go up.

Today, the situation is rather unsatisfactory. Even with the spending of such a considerable amount of time for the teaching of languages, many students are not in a position to use satisfactorily either the spoken or the written form of the language. This defect can be overcome by resorting to the functional teaching of languages. This technique is likely to provide another distinct advantage, viz., a possible reduction of about 50% in the time allotted for the teaching of the languages. Such a reduction will make additional time available for teaching other subjects.

2.4 It is seen that the functional teaching of languages for a variety of purposes is the need of the hour. For this method of teaching, a language laboratory is a necessary and useful aid.

3. Functional Teaching of Languages

In the functional teaching of a language, we make use of audio aids to learn how to speak a language and to understand what is spoken in the language.

Some expressions in a language have no equivalents in the mother tongue of the learner. In order to convey the exact meaning of such words, visual aids become most useful.

3.1 . Language lessons have to be written carefully with specific reference to the aid available. In addition, the type of learners to be catered for will have to be taken into account in the writing of the language lessons. This will be clear from what follows.

3.2 When the learners are adults, they have certain advantages. They have both maturity and motivation. But, being older, they are at a disadvantage. They are less flexible and cannot easily acquire the spoken language.

3.3 As matters stand at present, the teaching of English to college students stands in a class by itself. Some of the students know English quite well and they need no additional instruction of significance. Some would have a reasonable knowledge of the language and may need only some re-orientation. But, there will always be a large number of students who need a regular and complete drill. Different types of lessons will have to be written for the three classes. Alternatively, lessons of different grades could be prepared and students asked to take one or more of them. A more realistic way is to permit the teacher concerned to prepare separate sets of lessons for different groups after preliminary tests.

3.4 So far as school students are concerned it is useful to remember one significant point. There are differences between one Indian language and another. Hence, while giving instruction in English, it is easier if the differences between the mother tongue of the student and English are kept in view. This implies that at least some of the lessons will have to be written differently for instruction for students having different Indian languages as their mother tongues. The principle enunciated here is generally applicable to all categories of language learners.

3.5 Ultimately, we have to provide facilities for the functional teaching of several languages including our own languages to several categories of learners, some of whom have been mentioned in the preceding paragraphs. As can be seen from Appendix 1, language laboratory facilities available are meagre. Further, the pre-requites like lessons, materials like tapes etc., are practically non-existent. Under the circumstances, it is fair to say that we are practically starting from the beginning. In one sense, this is an advantage as it enables us to organize the work on proper and scientific lines. In another sense, it is a handicap as a large body of teachers and administrators have to be initiated into the new techniques. This is specially difficult having regard to the rigidity of schemes of instruction laid down as courses and the inevitable inertia which resists change.

Expansion has to be thought of in terms of a gradual evolution, but the planning has to be such that the entire class of learners we are concerned with are covered within a five-year period. For this purpose, the first item is one of selecting the languages in which instruction has to be given by employing the functional method. Suppose it is Hindi and English. The necessary lessons in English and Hindi for those who speak the different Indian languages are required. We understand that certain schemes have already been prepared and assigned to some of the Institutions in India like the Central Institute of English, Hyderabad, The Deccan College, Poona and the Annamalai University. If the necessary material is forthcoming from such Institutions, it could be utilised straightaway. If, for any reason, the required material by these Institutions takes time, it becomes necessary for us to think in terms of getting the material prepared at least temporarily as a crash programme. The main point of suggesting such an alternative is to stress the need for avoiding delays in execution.

With the material available, we could start the training of instructors and the teaching of adults. Such activity could be restricted to a few Centres in the country. The National Institute of Education and the Central Institute of English are doing this kind of work for teachers of English and it would be appropriate for the Institutions to step up the tempo of the activity. The National Institute of Education should also take up the activity with reference to Hindi, if, for any reason it is not possible for the Central Institute of Hindi to do the job.

The training of instructors will have to be at a very high level as they will be required to train teachers for other training colleges.

During the second year these facilities could be extended to the training of teachers in some of the training colleges. The functional teaching of some additional languages could also be taken up and so on.

The nature and rate of expansion will be limited by the funds available and by the number of persons who can be drafted for training in the new techniques. The minimum that we think of is in terms of extending language laboratory facilities to all the training colleges in India. This means that before the end of a five-year period, all the States will have been brought into the new type of activity. However, we think that such a minimum is too small having regard to the pace of development that we should contemplate as a norm. In such a norm, it is our view that every college and every secondary school should be provided with a Language Laboratory. This would imply covering about 50,000 institutions with language laboratories. A compromise could be to think in terms of all training colleges and some central language laboratory facilities for groups of schools and colleges. Such an approach might give a requirement of less than 10,000 language laboratories.

It is very essential for the success of the scheme that a proper decision is taken on one of the three alternatives we have furnished above as quickly as possible. The decision affects the training of instructors and teachers and the planning of production of language laboratory equipment indigenously.

Hence, it is needless to stress further the importance of a quick decision.

The gradual expansion is advantageous to indigenous production of the equipment because production is required to be increased in stages and the feed-back of past experience becomes valuable. Additional languages to be covered would only imply the preparation of additional lessons and materials. The same laboratory can be used for all of them. Hence, its financial implications are not as large as for the first step.

4. The Scheme

For a scientific launching of a project on the functional teaching of languages, there are several tasks to be executed. They are described in what follows.

4.1 The first task is the preparation of instructional material. This consists of books specially written for the purpose, an adequate amount of tapes for use as audio aids, some 35 mm slides or film strips as visual aids. In the initial stages, this work is best undertaken by a strong school of languages with the additional assistance of experienced teachers.

We understand that the Central Institute of English at Hyderabad is undertaking the work or can undertake the work of training English language teachers in the use of language laboratories etc. The Central Institute of Indian Languages with its regional centres is definitely assigned this task for Indian languages. Perhaps the Institute of Russian Studies can undertake such a task for Russian and so on. However, it will become necessary to examine the programmes of such Institutions and, if they are not sufficiently accelerated, make alternative arrangements to train instructors so that they become available according to schedule for the starting of the work.

It is necessary to point out that this preparation of material is a continuing process. There can be improvements to the first set of lessons, tapes etc., on the basis of experience. Hence, there will always be need to keep on doing this kind of work and, in some cases, to add more languages to the scheme.

4.2 The second task is one of training instructors who can educate the future teachers in colleges of education etc. The instructors must be able to familiarize the trainees in the use and maintenance of language laboratories and in the art of enthusing the learner to the new philosophy of learning. This training has to be planned and organized and is expected to be both intensive and extensive. It may require a period of one year. The work is best planned for small batches of about ten at a time.

This work of training instructors should go on simultaneously, if possible, with that of the preparation of the material for instruction. We may add that some provision has already been made for this purpose for some languages in some Institutions. This has to be examined critically and decisions taken for supplementing what is being done wherever necessary.

4.3 The third task is the training of teachers in colleges of education or training colleges. It is only thereafter that we get to the stage of carrying the new techniques to schools and colleges in an extended way. (But, this should not prevent several pilot projects being undertaken in a small way in institutions training instructors or training college teachers.)

4.4 Such a systematic procedure is advantageous for indigenous production of language laboratory equipment. During the first year, only a few language laboratories will be required. There should be no objection to importing equipment for these few language laboratories. This may mean importing units in tens. At the same time, indigenous producers may be asked to supply suitable models. These could be tested and examined and, if satisfactory, orders could be placed on them for larger numbers during the second and third years. This process of stepping up our orders would keep pace with our plans of establishing more and more language laboratories.

4.5 The preparation of the language laboratory equipment or manufacturing them is not an extra-ordinarily difficult problem when the basic components like head phones, microphones, tapedecks, etc. are available. Further, our demands for language laboratories will not at any time be extraordinarily large. Under the circumstances, we are of the view that this work should be assigned to a net work of small scale industries distributed throughout the country. Such a decision will enable expert assistance to become available locally for the net work of language laboratories. As far as we know there is surplus trained man power quite competent and capable of undertaking this kind of work in the small scale sector. The small scale sector will be amenable to make slight modifications and improvements as and when such suggestions are made.

4.6 As can be seen from Appendix 9, we have no facilities for manufacturing a certain number of items required in the production of language laboratory equipment. These will have to be imported and will continue to be imported till facilities for making them develop. We may also add that a good measure of language laboratory work lies in treating a selected room and installing the equipment in that room. This work also requires the preparation locally of acoustically insulated booths, electrical wiring, etc. These jobs will have to be done on the spot. This is an added reason for our suggesting that the work be taken up by small scale industries within the region.

5. Details

More information than is furnished in this main body of the report is necessary for executive action. We have thought it fit to furnish such information through a set of Appendixes attached to this report. Each Appendix is complete in itself so far as the information pertaining to the topic is concerned. In order to achieve this objective, a certain amount of repetition becames inevitable. But, we have not avoided this as such a step would have destroyed the completeness of an Appendix.

5.1 The distinct advantages of using a Language Laboratory are described in Appendix 2. The importance of the preparation of materials etc. is brought out in Appendix 3. Technical details together with estimated cost of production of audio, visual and TV aids are described in Appendixes 4, 5, 6 and 7. The estimated recurring expenditure for audio aids as furnished in the Appendix pertains to the requirements of an institution training instructors or teachers. In a school or college, it may become possible in due course to employ one of the regular teachers and hence, the recurring expenditure may go down. As larger and larger quantities of equipment ~~are~~ produced, we anticipate a reduction in the non-recurring expenditure also. We do not propose to make any calculation on this account as that depends very largely on decisions about the total requirements and annual additions, replacements ,etc.

5.2 So far as television is concerned, we should like to stress that it may be possible to furnish a close circuit TV together with the necessary equipment for using video tapes. M/s Bharat Electronics have just commenced making television picture tubes. Until they are tried and used, the circuits that become useful alongwith them cannot be visualised in detail and its cost estimated. So far as the video tape player is concerned, it is difficult to visualise its immediate production in the country. It may have to be imported. As a unit, a closed **circuit** TV with facilities for using video tapes should be adequate for a language laboratory in the beginning. Such equipment, partially indigenous, may cost about Rs.25,000/-, half of which may have to be in terms of foreign exchange during the next few years. This is only a rough estimate. Whatever the cost we strongly recommend that this TV aid is made available to at least two centres in the country immediately.

5.3 With the planned expansion of television throughout the country, it is necessary to emphasise the need for exploring the utilisation of the facilities of the all-India Radio. In particular, if they have facilities for preparing video tapes, they should be utilised at the different centres for producing the required tapes. We are not recommending purchase of this equipment for the purpose in our scheme of development of language laboratories during the next few years.

5.4 It has been the experience in other countries that properly produced films are extraordinarily educative and instructive in the teaching of languages. We would, therefore, suggest some dialogue with the Ministry of Information and Broadcasting for suitable arrangements to produce educational films for use in the teaching of languages. They could be supplied for use in institutions having projectors.

5.5 The All India Radio can itself be utilised for the functional teaching of languages and we have discussed this in Appendix 8.

5.6 The most important problem we are faced with currently is indigenous production of language laboratory equipment. This is discussed to the extent possible in Appendix 9. Appendix 10 is concerned with the need for elementary technical education to teachers who have to handle and maintain equipment.

Appendix 11 highlights the need for proper maintenance of equipment.

5.7 It is believed that the details in the Appendixes are adequate to supplement the content of this main report.

6. Recommendations

After World War II, language laboratories have made their headway into all schemes of language teaching in the developed countries of the world. To-day, in most of their schools and colleges, there are language laboratories. Overseas organizations in the Country make use of language laboratories to teach the languages of their countries. Under the circumstances, and, having regard to the special problems of our country, we feel that we should embark on the expansion of language laboratory facilities as almost a crash programme. Every rupee spent on it is an investment which will pay heavy dividends in the near future.

But, the important point to remember is the fact that we should grow the required facilities on our soil. This implies planned action in all phases of the problem in such a way that we get the required material for the functional teaching of languages, make the equipment through a network of small scale industries, and grow the teachers and instructors required to the proper stature. The growth rate should, however, be fast enough to enable us to have modified language courses and language laboratories at least in all the secondary schools of the Country within a five year period. Viewed on the International plane, even this would be a great achievement in a span of five years.

We have already indicated alternative methods of expansion of language laboratory facilities in the country in a previous section. The quantum of equipment required during the next five years will obviously depend on the alternatives selected. From such a decision, follows the consequential steps about provision of facilities, preparation of material, training of teachers, etc.

In this connection, we should like to stress one very important point. Even if all schools or groups of schools are not furnished with language laboratory facilities and even if school curricula are not modified to conform to the functional teaching of languages, it is very essential that we prepare the material and keep it ready. Similarly, it is extremely important that we train a very large body of teachers who become competent to undertake this new type of work. One of the greatest difficulties we face in most of our activities is lack of trained personnel. Hence, the primary duty of ours is to fill this lacuna. Further, with a large body of trained teachers and with the availability of the required materials, psychologically a necessary atmosphere will be created for getting into the new methods of teaching languages throughout the country.

It is necessary to have one full-fledged centre in the country where the equipment required for language laboratories are properly tested. Similarly, such a centre will be required to examine the feasibility and usefulness of any new designs submitted. Under the circumstances, we recommend that one institution, preferably, the National Institute of Education, undertakes a task of having a fully equipped laboratory for testing any laboratory equipment and for fabricating auxiliary requirements like small gadgets where and when necessary.

We also suggest the desirability of making the necessary provision for a suitable phonetics laboratory in an institution like the Central Institute of Indian Languages.

ACKNOWLEDGEMENT

We desire to place on record our thanks to Mrs. S. Basu, our Member-Secretary, and Mr. P.N. Natu, Secretary, N.C.E.R.T., for their invaluable assistance and co-operation. The staff of the N.C.E.R.T. rendered valuable assistance and executed the tasks assigned to them with speed and precision. We are grateful to all of them.

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APPENDIX I

LANGUAGE LABORATORIES IN INDIA

Two of the terms of reference to the Committee read as follows:

(a) To make a survey of the facilities like equipment, programmes, tapes, literature, etc. available in the language laboratories in the country for learning of Indian and other languages, and

(b) To report on the actual use of the language laboratories in terms of number of hours, number of persons and category of persons.

This appendix furnishes the information required.

Language laboratories have been established during the last five years in several places. It is not possible to give a comprehensive and a detailed list of such laboratories. However, from the information available, the list of places where there are language laboratories and some relevant details pertaining to them are given in enclosure 1.

It appears to us that the language laboratories were primarilly set up to teach a foreign language like English, German, Chinese, etc. Probably the majority of persons who were made to use such laboratories were adults and not high school students. However, to a limited extent, some use has been made of the language laboratories for teaching high school and junior college students. In addition, language laboratories have been utilised to teach American adults some Indian languages. We have no evidence to state that language laboratories have been extensively used for teaching a foreign language to university students. The only exception to the statement is the teaching of English to some of the students in the I.I.T.s and Wilson College and Ahmednagar College. It is, therefore, pertinent to remark that the language laboratories have not as yet come into any extensive use for the teaching of foreign languages to high school or junior college students. The use of language laboratories for the teaching of foreign languages even in teachers' training colleges has been extremely limited.

Most of the language laboratory equipment are imported and have come, in some cases, as gifts. Some attempt has been made in the Ahmednagar College to cannibalise imported materials and set up a language laboratory.

The language laboratories in existence are of two types, viz., the broadcast type and the library type with the variety of facilities normally expected for these two standard forms.

It is not possible to specifically state the number of hours for which language laboratories have been used. This varies from one institution to another. We have at one end an institution utilising such facilities for about two hours a day for five days of the week. At the other end, there are institutions which utilise such facilities for hardly 150 to 200 hours a year.

It will be seen from the above that it should be possible to extend the language laboratory facilities to a larger audience by a more extensive use of some of the laboratories. It is our belief that a language laboratory could be utilised for about 4 hours a day for five days of the week for at least 40 weeks ofx the year. Unfortunately, some of these language laboratories have been set up in institutions which have a specific objective. It is very difficult to visualise the possibility of their making the language laboratory facilities available for purposes other than those for which they were originally meant. This restriction does not apply to facilities available in institutions like the National Institute of Education or the universities.

A language laboratory like any other laboratory has to be maintained. One part of it is routine maintenance. Another part is repair and overhaul when one or more items of equipment completely go out of order. A third and an equally important part is the supply of consumables like tapes. When laboratories are put to more extensive use, expenditure on the items mentioned above go up. It is our estimate that a maintenance cost per month is likely to vary between Rs.350 and Rs.500. This additional expenditure has to be borne in mind while launching on any programme of a more extensive use of existing language laboratories.

Taking an overall view of the situation, it is our considered view that the majority of language laboratories cannot be brought into the type of extensive use we contemplate. Under the circumstances, it may be desirable to set up a limited network of language laboratories and make it a pre-condition that these laboratory facilities become available to a wide variety of users on an agreed basis.

One of the institutions, the American Institute of Indian Studies, has an extensive library of tapes and other literature. Barring this, in most other institutions, the tapes and programmes are limited to the specific purpose for which the laboratory has been set up. Under the circumstances, one could say that it is necessary to launch on a planned programme of furnishing tapes, literature, etc.

The facilities for learning languages as provided in the American Institute of Indian Studies or the Wilson College are mainly meant for instruction to the speakers of English. This restriction limits the use of such facilities for persons who do not know English.

The language laboratories, as mentioned earlier, have been utilised largely by adults and the number of persons catered for at a time is limited by the size of the laboratory which is given in the enclosure.

1.5

Most of the language laboratories have very limited staff consisting of one teacher assisted by an assistant. We have no evidence to state categorically that these teachers and assistants have been systematically trained for this purpose in all the existing laboratories. Some of the language laboratories have some technicians to assist them in the servicing & repair of the equipment. Some of them have entered into contract with firms to undertake periodical maintenance, servicing and repair.

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Enclosure I a

There are over a dozen language laboratories in India. All of them are imported either from U.S.A. or from U.K. The nature of equipment varies from highly sophisticated ones having booths fitted with tape decks providing listen, speak, record, compare facilities, inter-communication between teacher and student etc. to a very simple broadcast mode laboratory system. The cost of a language laboratory varies accordingly depending upon the degree of sophistication.

Some general information about the existing language laboratories is given in the table below:

Institution, address and date of installation	Manufacturer	Student position	Uses
1	2	3	4
1. Birla Institute of Tech. and Science, Pilani, August, 1965.	Connevans Ltd.	1[illegible] booths listen, record and intercom.	Teaching English
2. Regional Institute of English, South India, Bangalore, May, 1965.	-do-	8 booths listen, record & intercom.	Teaching English.
3. Indian Institute of Technology, Delhi, July 1965.	-do-	-do-	-do-
4. Central Institute of English, Hyderabad-7, Early 1966.	Tudedicta (Graetz) Mark II	-do-	-do-
5. Deccan College, Poona.	Monitor	15 booths listen, record operation.	Teaching Hindi & Urdu.
6. Indian Institute of Technology, Kanpur, 1965.	Imported from USA	24 booths listen record operation.	Teaching English.

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	1	2	3	4
7.	Institute of English West Bengal, Calcutta, 1966.	Connevans Ltd., Surrey, U.K.	8 booths listen, record, intercom.	Teaching English.
8.	A.E.C. Training College and Centre, Panchmarhi, 1965.	-	-	-
9.	Department of Chinese Studies, Delhi, 1967.	R.C.A.	24 booths listen, record, intercom.	Teaching Chinese.
10.	Wilson College, Bombay , 1967.	Connevans Ltd., U.K.	Listen, record, intercom.	Teaching English and Marathi.
11.	Ford Foundation, Delhi, 1968.	-do-	4 booth mini lab. listen, record.	Teaching Hindi.
12.	NIE Language Laboratory, New Delhi, 1965.	TRW, USA.	30 booths listen, speak, intercom.	Teaching English
13.	Maxmuller Institute Poona.	-		
14.	Ahmadnagar College, Ahmadnagar.	-		

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APPENDIX 2

ELECTRO-MECHANICAL AIDS TO THE TEACHING OF LANGUAGES

In the discussion to follow any language other than the mother tongue is considered as a foreign language. It is also assumed that the instruction takes into account the mother tongue of the learner.

2. There is a pressing need to teach more than one foreign language at school and/or college. Similarly, there is such a need in the case of adults also, particularly when they are required to serve in other countries of elsewhere and carry on trade, commerce, etc. In both these spheres, the basic requirement is to teach the language in the minimum possible time. Further, the language has to be taught in such a way that what the learner speaks is understood by a person whose mother tongue is that foreign language and the learner is able to understand what a person whose mother tongue is that foreign language speaks. This over-riding consideration imposes the need for correct pronunciation and the correct utterances of the important components of a word.

3. In some cases, there are expressions in a foreign language which cannot be appropriately translated into the mother tongue of the learner. In such cases, it becomes appropriate to indicate the meaning of the word with the assistance of film-strips.

4. After the basic essentials of a language are picked up, it becomes necessary to provide practice to listening to what a person, whose mother tongue is the concerned foreign language, speaks. Practice for this purpose is most appropriately furnished by playing a well recorded tape. Similarly, it becomes appropriate to record the speech of the learner in the foreign language, play back and then examine it to find out how effective he is likely to be in conveying his ideas in conversation.

5. A Language Laboratory as understood a few years back was a mere audio aid. To this was added a visual aid in terms of film-strips. Currently attention is being paid to the utilisation of closed circuit tele-vision for language instruction. To the extent possible, broadcast and tele-cast programmes have also been utilised for the teaching of foreign languages.

6. All the aids mentioned have a utility value when properly planned lessons are prepared, recorded and kept ready. The same applies for film-strips. It will thus be seen that a pre-requisite for the use of a Language Laboratoy is the preparation of a planned series of lessons by acknowledged experts. This has to be followed by the training of an adequate number of teachers who can use this facility intelligently and with speed. It is needless to emphasise that the laboratory aids will

just go waste if properly prepared lessons are not available and if there are no trained teachers.

7. For the learning of pronunctiations, it is extremely important that the speaker's voice is heard without distortion. Generally, in most class-rooms, the acoustics of the room is such that there is a forced reverberation distortion on what is spoken. In addition, external noises entering the room further distort the speech of the speaker. It is needless to say that in a large class there is always noise arising from the audience itself. All these defects are overcome in the audio aid called a Language Laboratory. Further, it is possible for the teacher to check on the work of any single student or a group of students without disturbing the others. These are some of the most distinct advantages.

8. There are also other advantages which merit a mention. One of these is that facilities can be provided for a drill that is repeating a word or a sentence several times. Such a process fixes a word in the memory more quickly. The audio aid saves the teacher from a considerable amount of unwanted exertion with the result that his efficiency automatically increases.

9. It is useful to point out that with the proper Language Laboratory facility, the time required for the learning of a language, reading, writing and speaking, can be reduced by almost 50%. It is for this reason that extensive use is made of Language Laboratories in all the advanced countries of the world. They are also supplying such facilities to many developing countires.

10. In our own country, it is now an accepted fact that our students have to learn three languages. A close examination of the time tables of a large number of secondary schools was made. It was found that about 50% of the time of the students is spent in the learning of languages. Hence the time available for the teaching of important subjects like Science, Mathematics, History, etc. gets considerably reduced. The reader can imagine what a transformation of standards would occur with a reduction of 25% of the time for language teaching. It is unnecessary to state that the time allotted for the sciences etc. can be increased and the standards would shoot up.

APPENDIX 9

PRE-REQUISITES TO THE USE OF LANGUAGE LABORATORIES

Since the electro mechanical equipment available in a Language Laboratory is only an aid to supplement the work of a good teacher, it is extremdy necessary that we should think primarily in terms of training good teachers who can make an intelligent use of these aids. For this purpose and for the purpose of regular class teaching, it is necessary to pre-plan and prepare a set of lessons for the teaching of the language. The set of lessons so prepared could be printed. The supplementary work that has to be done with the aid of a Language Laboratory will have to be carefully recorded on tape, film-strips, etc.

2. The preparation of the tapes must be done by experts or a group of experts, who are well-versed not only in linguistics but also in pedagogy. Perhaps, the best centre for the preparation of such recorded material may be the Central Institute of Languages or/and auxiliary units attached to it. Similarly, it may be possible to create similar facilities in a University Department of Linguistics provided it is a well-established one with a reasonably good team of expert linguists.

The most difficult and time consuming phase in the language laboratory programme is the preparation of laboratory instructional materials. Their construction requires expertise in linguistics, language laboratory methods and techniques. As the teacher in a language laboratory cannot make changes in the materials on the spot, it needs assiduous pre-planning and thoughtful imagination to prepare suitable instructional materials. The materials must be conceived as audio-lingual materials to be used in a Language Laboratory and constructed by a team of experienced specialists.

4. There are several factors which should be taken into account while planning materials for the laboratory: a consideration of the types of work which can be undertaken in the laboratory, an application of these to particular languages, and adaptation and modification of them to suit one's own requirements. Those who are in charge of preparing laboratory instructional materials must have:-

i) knowledge of foreign language teaching methods,

ii) knowledge of the structure of the language to be taught,

iii) a good oral-aural control over the language, and

iv) ability to write interesting lessons,

5. With the audio-lingual approach, the linguistic material taught in the laboratory must be the spoken language. The types of lessons that can be taught in the laboratory are:

i) pronunciation drills*,

ii) structure drills**,

iii) comprehension,

iv) recitation of verses and mimicry, and

v) readings from literature.

6. While planning laboratory lessons, the following should be taken into consideration:

i) There should be sufficient pause for the students to repeat.

ii) Each student-response should be followed by model-response.

iii) There should be enough repetition of a particular teaching item.

iv) A fairly rapid rhythm has to be maintained throughout the exercises.

v) Lessons are to be contexualised to make them interesting and meaningful.

vi) Learning exercises should be developed in single-step progression so that the student normally does not make an error.

vii) There must also be some built-in self-correction features to guard against the repetition of mistakes.

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* Discrimination and production of speech sounds.

** Structure of language through pattern practice.

7. Correct recording of materials is as important as interesting lessons. While making a master tape, care should be taken to make exact copy of the lesson script. As the tape is the main medium of instruction in a laboratory, all care should be taken to produce high quality tapes. A sound proof recording room is very essential for a successful language laboratory.

8. The use of film-strips is limited in the teaching of a foreign language to adults. However, it has extensive unitlity value at the school level. These film-strips have to be planned and prepared by the same set of experts, who prepare the language lessons. They should be responsible for getting the strips into a projectable form.

9. When closed circuit TV is used, better instruction can be provided because the learner sees the movement of the lips of the person etc., and therefore can imitate the process more quickly. Even for closed circuit TV, the programmes will have to be appropriately prepared.

10. In each language laboratory there is need for a good library of recorded tapes containing what is spoken by those who speak the foreign language and speak it well. Such a tape library with a minimum of a few

tapes will have to be prepared at the very outset before using a Language Laboratory. So far as this item is concerned, it is a matter of choice to pick up the speaker, the subject matter of the speech etc. But, it is proper, if a series of recordings are furnished to the expert committees mentioned so that they could re-record such portions and in such lengths as they deem appropriate for going into the tape library.

APPENDIX- IV

THE BROADCAST TYPE LANGUAGE LABORATORY

The broadcast type language laboratory is also called the audio-active language laboratory. In this type of laboratory, each student is provided with a headphone, a microphone and an amplifier. The student panel does not have a tape recorder. The control console is provided with a facility of selecting and recording the performance of any student. This is useful for a post-mortem of the students' performance after a class session.

The requirements of the broadcast mode laboratory are as follows:

There should be a reasonably acoustically good booth for each student. The headphone must have an anti-perspiration cushion. Both the headphone and the microphone must have a good frequency response, i.e., flat from at least 100 Hz to 8000 Hz. The amplifier must be of the same fidelity. In addition, there should be press buttons for lighting a light to invite the teachers' attention and facility to isolate one booth from the programme's source.

The requirements of the console facility should desirably be as follows:

(i) Tape deck with playback head only and amplifier as a programme source (preferably 9.5 cm/sec & 19 cm/sec speed).

(ii) Switching facility to monitor the performance of any booth and conversation - duplex - if desired.

(iii) Switching facility to call all students (All-call).

(iv) A two track, 9.5 cm/sec. tape recorder with adequate switching to record the performance of any student. A footage counter and/or facility to index record on this tape recorder without the student's knowledge is essential.

(v) Necessary amplifier and switching facility to connect any two students with the teacher for a "supervised conversation" between the students.

(vi) Provision for teacher to "ad lib" a lesson if needed.

(vii) A four speed disc player may be desirable as an additional programme source - but not essential.

(viii) "Call attention" facility is desirable but not essential.

The estimated cost of a broadcast mode language laboratory for use by 10 students is as follows:

1. The floor area should be about 600 sq. ft. and the height of the room should exceed 12'. It is possible to utilise any of the available rooms in a school or institution for this purpose. The room will have to be slightly treated acoustically and this may cost about Rs. 500.00.

		Indian Currency	Foreign Currency
2.	Furniture including booths 10 Nos., control table 1 No. & auxiliary.	Rs.3,800/-	

		Indian Currency	Foreign Curr
3.	Equipment:		
	a) Headphone Microphone 11 Nos.	Rs.2,400/- *	£ 220/-(Rs.396
	b) Tape decks 2 Nos.	Rs. 375/-*	£ 35/- (Rs.63
	c) Other electronic equipment including amplifier (14 Nos.) Oscillators (1 No.) Switching facility, control console, power supply.	Rs.6,000/-	
4.	Wiring and installation and commissioning.	Rs.1,000/-	
	Say	Rs.13,600/-	£ 255=4600 **
		Rs.18,700/-	

* Provision for customs duty at 60% ** 24% Approx.

The total non-recurring cost of this installation is estimated at Rs.20,000/- and out of this, about Rs.4600 is in terms of foreign exchange.

The recurring cost for the routine maintenance of the installation, if it is entrusted to outside agencies, is likely to be about Rs.200 per month. In addition, there is need to provide another Rs.200 per month for purchase of spares, tape etc.

It is desirable to have a small sound-proof recording room with the required facilities for recording on tape. This facility which involves acoustical treatment of a small room and purchase of a separate tape recorder may cost about Rs.3,000/-.

The language laboratory has to be provided with some additional furniture. The items of furniture are some store-wells for preserving records etc., 2 tables and 4 chairs. This is likely to cost about Rs.1,500/-.

The laboratory will have to be provided with the minimum of some test and servicing instruments and auxiliaries. These consist of, solder, soldering iron, multimeter, an audio signal generator and a vacuum tube voltmeter. Some workshop tools like pliers, screw drivers, etc. and a portable electrical drill would be useful. All these items are likely to cost about Rs.3,500/-.

The laboratory will require a lecturer in the usual grade of Rs.400-950 and a helper. It is presumed that the lecturer with the assistance of other staff would be able to carry out minor repairs etc. after initial training.

4.5

Estimated non-recurring cost is Rs.27,500/-, i.e. roughly Rs.30,000/-.

Estimated recurring cost is Rs.19,200 i.e. roughly Rs.20,000/- per annum.

The staff, viz, a lecturer, is required in institutions training instructors. Elsewhere, a trained teacher could be employed.

APPENDIX - V

LIBRARY TYPE LANGUAGE LABORATORY

In this type of language laboratory all the student booths have all the facilities of the broadcast mode language laboratory. In addition, all the student booths have a twin track tape recorder in each booth. With this arrangement, it is possible for each student to play a recorded tape and listen to himself. He can also record his own speech and listen. All this is in addition to his being able to listen to the tape played by the teacher and to being controlled by the teacher.

Obviously, there are distinct advantages in this system. Each student, depending on his capacity to learn and the number of repetitions he requires, can control the programme to suit himself. In addition, it is possible to check his own work by recording and replaying. With such advantages, it becomes possible to attend to the weaker students to a great extent and so on.

Library type language laboratory is the best audio aid to language teaching and should be preferred when cost considerations do not hinder the choice.

Specifications of the additional facilities of the library type language laboratory are as follows:

5.2

Student Booth

(i) Tape recorder, twintrack, 9.5 cm/sec. speed, with facilities for listen-record, play-back and duplicate. No erase head shall be provided on the master track. Previously bulk erased tapes shall be used for mass duplication.

(ii). Facility of handing over tape motion control for the control console for mass duplication. During the mass duplication, however, the student can have the listen record facility - if he does not arrest the tape motion.

(iii) The booth equipment should continue to function as broadcast mode boot

The additional facility at control console at stage 2.*:

(i) "Post mortem" tape recorder discarded or modified to a tape player as source of a channel if all booths are converted into library mode booth and it is not desirable to use the laboratory as a broadcast mode equipment.

(ii) Facility to select rows of student booths for giving them simultaneousl different programmes in (i) above.

(iii) Mass duplication of taped lessons.

(iv) All other facilities of the broadcast mode laboratory except "Post mortem" recording.

(v) Bulk eraser.

The library type language laboratory also requires acoustically treated room, a recording room, a series of booths etc. These have been described in Appendix IV and estimates of their prices have been given. In addition, the following are the estimates for the extra facilities included:

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*This is adding tape facilities to Broadcast type (Appendix 4).

		Indian Currency	Foreign Currency
1.	Tape decks 12 Nos.	Rs. 2, 200/-*	£ 204 (Rs.3,672/-)
2.	Equipment inclusive amplifiers & oscillator (35 Nos.) switching facility, control console, duplicate control relays, power supply etc.	Rs. 14,600/-	

* Provision for duty at 60%.

The estimated non-recurring cost is Rs.39,650 i.e. Rs. 40, 000/-.

The estimated recurring cost is Rs. 20, 000/-.

Note: It is likely that more tapes may be consumed in this system. It is also likely that the maintenance charges by external agencies may be higher. In such a case, the recurring expenditure may have to be increased by about Rs. 1, 500/-. However, it is presumed that the cushion provided in the estimates can offset this extra expenditure.

APPENDIX - VI

Film Strips for Use in Language Laboratories

Generally, there are expressions in a foreign language whose meaning cannot easily be conveyed in the learners' language. It is in this area that film strips become useful. There are also other uses of film strips. In some cases, a scene is reproduced together with a small description of the same and so on.

Film strips can be prepared in black and white and that should be reasonably adequate in the teaching of languages to adults. However, film-strips in colour are always more educative and more useful as teaching aids. Having regard to the cost involved it is being suggested in what follow that the first attempt should be to furnish black and white film strips only.

The production of film strips requires facilities for proper drawing and the services of a qualified artist. This is followed by the required facilities for photographing and making the required film strips. Such film strips will have to bear appropriate numbers relating them to the teaching lessons written out and to the audio tape provided for teaching. Under the circumstances, it is most desirable that this work is undertaken in one central place. This place is most appropriately the place where the lessons are written and the tapes produc

6.2

The cost of such equipment as a non-recurring item is likely to be in the range of Rs. 50, 000 to Rs.1, 00, 000. In addition, there is the recurring cost of films. The rough estimate is that one slide may cost about Rs. 3 to Rs. 5, taking into account the production cost of the labour employed, the cost of the film, etc. It will be seen that this is a costly process and necessary care will have to be exercised in restricting the number of strips to be prepared for the different languages, etc.

Each institution having a language laboratory will have to be provided with a projector for projecting these film strips of a slide size. If this projector is mounted in the language laboratory described in Appendix IV or V, it may be possible to manage with a small projector costing about Rs.300 or less.

APPENDIX- VII

TELEVISION IN LANGUAGE LABORATORY PROGRAMMES

Till about last year the usual practice was to utilise audio-aids like tape recorders, head sets, microphones etc. and film-strips in language laboratories. Recently, the employment of closed circuit television appears to be making a headway into Language Laboratories.

2. Television has several distinct advantages over the usual language laboratory facilities. Firstly, the sound can be reproduced and there can be recordings of sound in the usual way. In addition, there can be the simultaneous picture reproduction. When they see the movement of the lips etc. of the speaker, the learner picks up the art of uttering the appropriate words properly. Under the circumstances, closed circuit TV offers a very useful technique for supplementing language laboratory facilities.

3. Television facilities are extremely costly and, in terms of current thinking, have to be restricted to the teacher employing the TV facilities. It may not be possible immediately to provide similar facilities with the TV to each booth in which the learner sits and learns. It is useful to state

that this is not because technology has not developed. The restriction arises entirely from the fact that provision of such facilities in booths becomes extremely costly.

4. So far as our own country is concerned, it is imperative that a beginning in the use of TV for language teaching is made at least at one centre. On watching the utility and the results, such facilities could be extended to several centres. In this connection, it is useful to state that the All India Radio has the required TV facilities in Delhi. Hence, if work is done with their cooperation and assistance, a considerable amount of money to be invested in several items of equipment could be saved. This is all the more necessary because the elaborate facilities can never be utilised fully in any laboratory in the present state of development of Language Laboratories.

APPENDIX -VIII

UTILISATION OF THE ALL INDIA RADIO FACILITIES FOR LANGUAGE TEACHING

Having regard to the fact that learning the art of speaking and understanding what is spoken in a foreign language is extremely important in any schem of language teaching to both adults and school and college students, it becomes very necessary to stress here the utility value of the All India Radio in assisting projects of language teaching.

2. A simple example could be given. One could develop the teaching of English with the aid of the TV and make a programme of 10 to 20 minimum lessons, each lasting about 15 minutes to half an hour. If such lessons are put through the Delhi TV station at a pre-determined hour it is possible for most of the colleges to switch on the TV and make their students follow the programme. This can be supplemented by additional instruction by the language teacher. The same procedure could be followed for similar standards of schools also.

3. There are a large number of adults who are keen on learning languages. One typical example is of foreigners, who would like to learn [illegible]. A similar example would be of some Indians, who know English well and who want t

learn Hindi. For such persons, suitable TV programmes similar to those indicated above, but not identical could be prepared and put through the Delhi TV station at a suitable evening hour or if the programmes during the evenings is crowded, it can be put through on Sundays and late at night. Such programmes supplemented by suitably written books on how to learn Hindi by yourself can come as a boom to hundreds of listeners.

4. The use of the TV is currently restricted to the city of Delhi only. But, the broadcasting network could be utilised in the whole of the country for language teaching. There will be many schools where language laboratory facilities cannot be provided for years to come. For the benefit of such Institutions, it should be possible to write out language lessons corresponding to the broadcast type language laboratory and put them through the local stations. If this is done at a pre-determined hour regularly, the school time-tables could be suitably altered.

5. There are at present a considerable number of arguments and counter-arguments about the utility of the facilities for broadcast and tele-cast of the All India Radio. It can be submitted that the lack of interest in the All India Radio broadcast as reported is entirely due to the broadcast being uninteresting, dull and lacking in purpose. This last cause, viz., the lack of motivation is always

one of the primary causes for the failure of any scheme. Hence, it is firmly believed that if the programmes are prepared by educational experts and geared strictly to correspond to courses in languages as stipulated to different levels, there is no doubt that facilities could be fully utilised and highly appreciated.

6. The All India Radio has considerable facilities for duplication of tapes. The equipment required for this purpose is costly and the question of purchasing one for the development of language laboratories could be ruled out at present. Besides, the facility is not likely to be utilised continuously to justify the investment on the equipment. Under the circumstances, the cooperation of the All India Radio could be sought for duplication of tapes prepared for use in language laboratories.

APPENDIX-IX

INDIGENOUS PRODUCTION OF LANGUAGE LABORATORY EQUIPMENT

Language Laboratory equipment can be broadly classified as audio aids, visual aids and television facilities. Each of these could be dealt with in what follows in as much detail as possible.

AUDIO AIDS

2. The essential components of the audio aids of a Language Laboratory are:

a) The Head Set

b) The Microphone,

c) The Tape Decks,

d) Amplifiers,

e) Switches,

f) Connecting cables and other hardware.

3. **The Head Set:** This consists of high quality telephone receivers which are of light weight. They are furnished with suitable sound insulation. The material used for insulation is such that it is not affected by perspiration, climatic effects etc. Since extreme fidelity is required, viz., 100 to 8000 Hz, special telephones are required. These are at present not made in India. It is difficult to imagine that they can be developed and made very soon. Under the circumstances, it is

necessary to import the head sets from abroad to avoid waste of time and to maintain the minimum standards of quality for equipment.

4. Simultaneously with the above decision, it is desirable to undertake development work for making the required head set. Such development work could be given in the form of a usual research scheme to a handful of small scale industries and educational institutions. The criterion should be that those who take up such schemes should produce not only a model, but also the entire set of gadgets necessary for mass production.

5. Although 100 - 8000 Hz is specified as the fidelity range, the problem requires further examination. It may be possible to meet all the requirements of a Language Laboratory by using headphones which have a fidelity up to 5000 Hz only. Whether such a headphone meets the requirements is an item of research which should be entrusted to a Linguistic Department with appropriate electronics facilities and staff for investigation. It may incidentally be mentioned that this work would not take more than three months.

6. The Microphone: As currently supplied by overseas manufacturers, the microphone is a part of the head set. This is the most correct procedure. Hence, the delinking of the microphone from the head set should not be thought of as a suitable alternative. The microphone is a high fidelity microphone havin

a fidelity of the same order as the head set. It is of very light weight and is generally of the moving coil type. Moving coil microphones are currently being made in India in collaboration with some foreign manufacturers. It remains to be explored whether they could undertake making the small light weight high fidelity microphones being used in conjunction with the head set.

7. For transistor receivers, it is usual to supply the ear-phone which is similar to the one used for hearing aids. Even if this could be made of high quality, it should be ruled out on hygienic considerations. It is necessary to remember that hundreds of people will be using the same headphones and health and hygiene are important considerations.

8. The Tape Decks: Tape decks of high quality are not currently made in India and they will have to be imported for some time to come. It must be mentioned that the component parts of this item are delicate and require a high degree of precision not only in the choice of materials, but also in the process of production. It is useful to think in terms of handing over such a project as a research scheme to a number of small scale industries and research and educational institutions. When the schemes are formulated, time targets should be specified and there should be insistence

9.4

on the development of procedures for mass production. If this is not done, the money spent on the research scheme will just go waste.

9. Amplifiers: High quality silicon transistors are currently manufactured in India. Under the circumstances, there should not be any difficulty in making any type of amplifier required with any degree of fidelity. The required components like resistence capacitance etc. are also made in India. Hence, there should not be any difficulty whatsoever for the indigenous production of amplifiers immediately.

10. Switches: Switches are being made in India. But, one is not quite sure of the quality. It should be remembered that the equipment will be used by non-technical personnel and if the switch does not operate for any reason, the entire programme of instruction will suffer. Hence, the criterion for the choice has to be of switches which are tested for reliability for at least one million operations. If the required standard cannot be reached by local manufacturers, it may be desirable to import switches in the first instance. But, there is no doubt that the required type of switches will be forthcoming as and when orders become large.

9.5

11. Connecting cables and hardware: Every item required in this category is produced in the country and is more than satisfactory for the purpose for which it is required. Hence, there is no problem of imprting them at any stage.

12. Taking an over all view of the situation, indigenous production may be encouraged in stages. Thus, import of head sets, microphones and tape decks may be permitted and the manufacturer may be asked to use indigenous supply for building all the other auxiliaries. Even here, one could think of a two-stage development. In the first stage we could develop the broadcast type Language Laboratory and reserve in each booth appropriate positions for inserting the tape recorder. In the second stage the required tape recorders may be developed and fitted into the same Laboratory, thus making it a library type Language Laboratory.

9.6

THE INDIAN SITUATION

13. While making equipment or while using the imported equipment, we must realise the practical difficulties prevailing in the country. Firstly, power supply may not be available everywhere. Secondly, there can be interruption in the power supply. If class is arranged for 11 - 12 and if there is no power supply at that time, the class will have to be let off. To guard against such contingencies, it is suggested that allequipment should be transistorised and made suitable for dry battery operation. In addition, each equipment should be supplied with a suitable convertor to give the required supply from AC mains to the equipment. The provision in the equipment will be such that it operates from the mains, but when the mains is not available, its operation could be switched on to dry batteries.

14. Dry batteries are recommended in preference to accumulators etc. having regard to the ease of maintenance and the fact that lead-acid accumulators can cause trouble in the Laboratory used by non-technical personnel.

9. 7

TAPES

15. As per information available, the tapes are manufactured by a handful of manufacturers in the United States, Europe and Japan. It is not economical to manufacture such tapes in small quantities and the quantities we will require will always be extremely small, having regard to the production capacity of tape unit. Under the circumstances, it is strongly recommended that we should not contemplate manufacturing tapes in India during the next few years.

16. One company in India is buying tapes discarded by computer manufacturers and cutting them for use in audio aids. Such tapes are available in India and are quite satisfactory for use in the audio-aids of Language Laboratories

17. In each Language Laboratory, it is necessary to obtain the main supply through a constant voltage transformer. This is because the mains voltage varies and this affects the performance of the audio-aids. Constant voltage transformers are currently made in India. Similarly, where the voltage is continuously low, boosters could be employed. They are also manufactured in India.

9.8

TAPE DUPLICATION

18. There are facilities for duplication of tapes in some of the stations of the All India Radio. In the initial stages, it is much better to make use of such facilities. This is because the tape duplicator is an extremely costly item and in the initial stages there will not be enough work to justify an installation of such an equipment and recruiting the staff required to operate and maintain it.

VISUAL AIDS

19. The principal items of visual aid are the film-strip and films. For making film-strips, necessary drawing will have to be prepared by artists under instructions from expert linguist, who have prepared the language lessons. Once this is made, to make film-strips is not going to be difficult, because facilities for the same are available at several places including perhaps the N.C.E.R.T. However, certain consumable items will have to be imported where necessary, but as matters develop, we should think in terms of making use of entirely indigenous materials and for this purpose a certain amount of development work may have to be done. This will have to be appropriately financed as a part of the Language Laboratory project.

9.9

20. A second item which appears to be of minor importance is really of major significance. It is as follows. Provision has to be made for preserving properly the film-strips and the index for all the available film-strips. This requires the design of suitable case with provision for inserting the index cards. Unless some thought is given to this in the very beginning, there might be a major trouble leading to difficulties for tracing the particular film-strips required for a particular lesson.

21. For projecting film-strips in the form of slides in the Language Laboratory, a very small projector is required. Such projectors are made in Japan at a cost of about Rs. 50/- each. It should not be difficult to make such projectors and bring down the prices in India. The appropriate design drawings and scientific specifications could be given as soon as it is decided to purchase a certain number of them. Unfortunately, manufacturers are reluctant to make things unless they know the existence of a demand and the exact quantities in which an item is required.

9.10

CLOSED CIRCUIT TELEVISION

22. A beginning will have to be made to make use of telecast programmes for instruction in Language Laboratories. This could be expanded later to cover even each booth in a Language Laboratory. But in order to make the beginning, it is suggested that one or two closed circuit TV equipment suitably modified to take recorded tapes could be installed in one or two places. The required recorded tapes should be obtained by seeking the cooperation of the All India Radio which has the required facilities.

23. Television picture tubes are being manufactured by M/s Bharat Electronics. The details of the same can be obtained and around the same, the other auxiliary equipment could be designed and built. Thus one could have the required TV facilities for a Language Laboratory indigenously produced. This part of the work is development work and should be entrusted to a suitable organisation with appropriate grants and with a set time target. It is visualised that this work could be completed in about a year.

9.11

GENERAL

24. Ultimately, it is visualised that every school in the country will have a Language Laboratory. This would mean about a 100,000 Language Laboratories. But such a scheme cannot be thought of because the required teachers are not there and the required instructional material prepared by linguists does not also exist. Hence in thef first stage, the problem is one of producing the material and then of training a large number of teachers to make use of Language Laboratories. This should be taken up as a crash programme. For this purpose a beginning could be made by providing facilities for training teachers in the operation of Language Laboratories in the N.C.E.R.T. and its regional institutions and a few Language Departments of Universities carefully selected. Thereafter, the facilities could be expanded for covering several training colleges, State Institutes of Education, etc. This could be followed by the provision of Central Language Laboratories in very large cities for use by a net work of schools and so on.

25. The above facts are being mentioned because the need for bulk production will arise only after requisite preparation has been made for the training of teachers and for the production of the material required for instruction.

APPENDIX-X

TECHNICAL TRAINING FOR HANDLING LANGUAGE LABORATORY EQUIPMENT

The equipment in language laboratories can be handled successfully both for maintenance and repair by persons trained in radio and/or sound engineering etc. But having regard to the limitation of funds for expansion of language laboratory facilities and having regard to the total amount of work that may fall on a whole-time technician who may be employed, it is felt that it should really be unnecessary to employ a whole-time technician in any small language laboratory for the simple reason that he will not have enough work to do and most of the jobs that he will be required to do could be done by others after a little training.

2. The teachers in language laboratories are generally highly educated and can be trained to use the laboratory. Hence, they will not be lacking in the aptitude to pick up a few details to look after the equipment and repair it when minor faults are discovered. In addition, most institutions will have physics teachers in their science Departments, who will have the necessary aptitude for handling scientific apparatus. Both these sets of teachers should

preferably be trained for handling language laboratory equipment.

3. It is visualised that elementary instruction on the working of the devices, components and the equipment together with the principles and procedures to be followed for tracing faults and rectifying them can be given to such teachers through an intensive course of about four weeks duration arranged during the vacations or at any other period. If it is a four-week course, the instruction will have to be for about 4-5 hours a day. If a corresponding evening course is run, it can be spread for a period of about six months and lecture and laboratory instruction arranged for about two or three hours on alternate days.

4. It is sincerely felt that there is a dire need for making a provision for this type of education immediately so that as language laboratories grow, there will be the necessary nucleus of trained personnel who can maintain and carry out minor repairs to the equipment.

APPENDIX-XI

MAINTENANCE AND REPAIR OF LANGUAGE LABORATORY EQUIPMENT

The equipment provided for a Language Laboratory must be maintained in the best possible condition. Otherwise, there can be distortion of speech etc. A consequence of this would be that the very purpose for which the Laboratory was installed would get defeated. Similarly, if dust etc. collect on the lenses or elsewhere in the projector system, there will be a failure of good reproduction. It is also necessary to carry out the required adjustments for electro mechanical drives etc. All this kind of work has to be carefully programmed and executed regularly. This could be done by entrusting the work to an outside agency or by the teacher concerned learning the job and executing it.

2. Whatever the procedure that is adopted, a periodic check is absolutely necessary. This periodic check should also indicate the type of parts or components which are nearing the end of their life so that they could be ordered as replacements long before the equipment become unutilisable. If this is not done, several useful man hours of the teacher and the learners would go waste.

11.2

3. In a country like ours, it is always extremely difficult to get spare parts. Further, the usual routine makes it impossible to despatch orders quickly. Under the circumstances, it would be wise to list the parts that have to be frequently replaced and get one set of such spares ready for use in the laboratory itself.

4. A separate appendix has been prepared and this item has been specifically discussed with the same importance that is given to equipment etc. for the simple reason that failure to meet this requirement may result in real loss of the very investment that was made for the setting up of a Language Laboratory.

APPENDIX-XII

List of Documents Examined by the Committee

1. Language and Technology: An Indian Context by Dr. D.P. Pattanayak
2. Language Laboratory, by Dr. D.P. Pattanayak
3. A note on the use of technology in learning foreign languages, by Mrs. Chitra Naik
4. A note on language laboratory and its use in teaching second languages in India, by Mrs. Sandhyarani Basu
5. N.I.E. Language Laboratory Project, by Mrs. Sandhyarani Basu
6. Information on language laboratories in U.K., compiled by Mrs. Sandhyarani Basu
7. NIE Language Laboratory and Language Teaching, by Mrs. S. Basu and Dr. R.H. Dave
8. Indigenous development of language laboratory facilities, by S.N. Salagarkar